

CLAIMS

1. A compressor comprising a compressor wheel mounted for rotation within a compressor housing, the compressor housing having an annular outlet passage surrounding the compressor wheel and defined between opposing annular wall surfaces, wherein a portion of at least one of said wall surfaces is resiliently flexible such that operational pressure changes within said outlet passage cause the resilient wall surface portion to flex.
2. A compressor according to claim 1, wherein both said annular wall surfaces have resilient portions.
3. A compressor according to claim 1, wherein the resilient portion of the or each wall surface is annular.
4. A compressor according to claim 1, wherein each annular wall surface is substantially planar over a radial dimension, and said flexible surface portion of the or each annular wall surface extends over a major portion of said radial dimension of the respective wall surface.
5. A compressor according to claim 1, wherein the resilient portion of the or each wall surface comprises a respective resilient member inset into a recess defined in a wall of the housing.
6. A compressor according to claim 5, wherein the or each resilient member presents a surface which is substantially flush with the surrounding surface of the respective housing wall.

7. A compressor according to claim 5, wherein the or each resilient member comprises a resilient diaphragm.
8. A compressor according to claim 7, wherein an air gap is defined within the recess behind the diaphragm, and one or more pressure bleed passages are provided in communication with said air gap to accommodate flexing in the diaphragm without significant pressure change within said air gap.
9. A compressor according to claim 8, wherein a diaphragm is supported on reinforcing radial and/or circumferential ribs.
10. A compressor according to claim 9, wherein said diaphragm and reinforcing ribs are integrally moulded with one another.
11. A compressor according to any one of claim 5, wherein the or each resilient member is annular.
12. A compressor according to claim 9, wherein the diaphragm is annular and pressure equalisation ducts are provided through the or each reinforcing rib to equalise pressure in the air gap behind the diaphragm around the entire annular extent of the diaphragm.
13. A compressor according to claim 5, wherein said resilient member comprises a diaphragm supported on compressible foam to accommodate said flexing.
14. A compressor according to claim 13, wherein said resilient member comprises an annular support member, said foam being sandwiched between said support member and said diaphragm.

15. A compressor according to claim 14, wherein said support member includes raised portions which extend through said foam layer and directly support the diaphragm.

16. A compressor according to claim 1, wherein each annular wall surface is substantially planar over a radial dimension, and said flexible surface portion of the or each annular wall surface extends over a major portion of said radial dimension of the respective wall surface and wherein the resilient portion of the or each wall surface comprises a respective resilient member inset into a recess defined in a wall of the housing.

17. A compressor according to claim 16, wherein the or each resilient member presents a surface which is substantially flush with the surrounding surface of the respective housing wall.

18. A compressor comprising a compressor wheel mounted for rotation within a compressor housing, the compressor housing having an annular outlet passage surrounding the compressor wheel and defined between opposing annular wall surfaces, wherein a portion of at least one of said wall surfaces is defined by a first side of a resilient diaphragm inset into a respective recess defined in a wall of the housing, and one or more gas passages communicate with said recess for connection to a variable pressure region of the compressor to communicate pressure changes to a second surface of the diaphragm, such that changes in pressure to either side of the diaphragm cause the diaphragm to flex.

19. A compressor according to claim 18, wherein the or each diaphragm is annular.

20. A compressor according to claim 18, wherein both said annular wall surfaces have portions defined by a respective diaphragm.

21. A compressor according to claim 18, wherein said first surface of the or each diaphragm is substantially flush with the surrounding surface of the respective housing wall.

22. A compressor according to claim 1, wherein the or each diaphragm is mounted on a respective support inset into the respective recess and fabricated from a resiliently compressible material.